IN THE CLAIMS:

Please amend claims 1-15.

Please add new claims 16-20.

1. (Currently Amended) Measuring arrangement for testing workpieces, having at least one optical ~~fiber~~ fiber ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ assigned to a workpiece ~~(10)~~, ~~in which the or~~ wherein each optical fiber ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ is designed as a Bragg grating sensor, and ~~which the or~~ wherein each optical fiber ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ is arranged in ~~the~~ a region of a surface of the workpiece.

2. (Currently Amended) ~~Arrangement~~ The measuring arrangement according to Claim 1, ~~characterized in that the or~~ wherein each optical fiber ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ designed as a Bragg grating sensor is mounted~~,~~ ~~in particular bonded,~~ directly on the surface of the workpiece ~~(10)~~.

3. (Currently Amended) ~~Arrangement~~ The measuring arrangement according to Claim 1, ~~characterized in that the or~~ wherein each optical fiber ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ designed as a Bragg grating sensor is integrated in the surface of the workpiece ~~(10)~~.

4. (Currently Amended) ~~Arrangement~~ The measuring arrangement according to Claim 3, ~~characterized in that~~ wherein recesses are introduced into the surface of the workpiece ~~(10) are recesses whose~~ said recesses each having a breadth and depth ~~are~~ matched to ~~the~~ a diameter of the optical fibers ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ designed as Bragg grating sensors, and ~~in that an~~ wherein said optical fibers ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ ~~is~~ are arranged in the recesses.

5. (Currently Amended) ~~Arrangement~~ The measuring arrangement according to claim 1 wherein a ~~according to one or more of Claims 1 to 4, characterized in that a~~ plurality of said at least one optical ~~fibers~~ fibers ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ designed as Bragg grating sensors are arranged in a ~~different~~ geometrical configuration different from other ones of said at least one optical fiber on a surface of the workpiece ~~(10)~~.

6. (Currently Amended) ~~Arrangement according to~~ The measurement arrangement according to Claim 5, ~~characterized in that the~~ wherein said plurality of optical fibers ~~(11, 12, 13, 14, 15, 16, 17, 18)~~ designed as Bragg grating sensors are arranged with ~~different~~ curvatures which are different from said other ones of said at least one optical fiber on the surface of the workpiece ~~(10)~~.

7. (Currently Amended) ~~Arrangement~~ The measuring arrangement according to Claim 5 ~~or 6, characterized in that a first~~ wherein at least one optical ~~fiber (11, 18)~~ fiber designed as a Bragg grating sensor is arranged without curvature in the form of a straight line on the surface of the workpiece ~~(10)~~.

8. (Currently Amended) ~~Arrangement according to one or more of Claims 5 to 7 characterized in that a second~~ The measuring arrangement according to claim 5, wherein at least one optical fiber ~~(12, 17)~~ designed as a Bragg grating sensor is arranged in the form of an angular straight line on the surface of the workpiece ~~(10)~~ in such a way that a first section of the ~~fibre~~ fiber ~~(12, 17)~~ is angled off from a second section thereof.

9. (Currently Amended) ~~Arrangement according to one or more of Claims 5 to 8, characterized in that a third~~ The measuring arrangement according to claim 5, wherein at least one optical ~~fibre~~ fiber ~~(13, 14, 15, 16)~~ designed as a Bragg grating sensor is arranged on the surface of the workpiece ~~(10)~~ in such a way that the at least one ~~fibre~~ fiber ~~(13, 14, 15, 16)~~ has at least one of a curved section of approximately 90° and~~/or~~ a curved section of approximately 180° with neighbouring sections of the corresponding optical ~~fiber (13, 14, 15, 16)~~ running approximately parallel to one another in the curved section of approximately 180°.

10. (Currently Amended) ~~Arrangement according to one or more of Claims 1 to 9, characterized in that the~~ The measuring arrangement according to claim 1, wherein the workpiece ~~(10)~~ is designed as a dynamically loaded component~~, in particular as a blade of a turbine or housing of a turbine~~.

11. (Currently Amended) Use of a measuring arrangement according to ~~one or more of Claims 1 to 10 to~~ claim 1 to determine the properties of a dynamically loaded component~~, in particular a blade of a turbine or a housing of a turbine~~.

12. (Currently Amended) Method for metrological instrumentation of workpieces, ~~in which~~ at least one optical fiber designed as a Bragg grating sensor is arranged in the region of a surface of the workpiece.

13. (Currently Amended) ~~Method~~ The method according to Claim 12, ~~characterized in that the or~~ wherein each optical fiber designed as a Bragg grating sensor is mounted, ~~in particular bonded~~, directly on the surface of the workpiece.

14. (Currently Amended) ~~Method~~ The method according to Claim 12, ~~characterized in that the or~~ wherein each of said at least one optical ~~fiber~~ fiber designed as a Bragg grating sensor is integrated in the surface of the workpiece with, recesses being introduced into the surface of the workpiece whose width and depth are matched to the diameter of the optical fibers designed as Bragg grating sensors, ~~and in that~~ wherein an optical fiber is arranged in the recesses.

15. (Currently Amended) ~~Method according to one or more of Claims 12 to 14, characterized in that a~~ The method according to claim 12, wherein a plurality of said at least one optical ~~fibers~~ fiber designed as Bragg grating sensors are arranged in a different geometrical configuration~~, in particular with different curvatures, on a surface of the workpiece~~.

16. (New) The measuring arrangement according to claim 2, wherein said each optical fiber is bonded directly on the surface of the workpiece.

17. (New) The measuring arrangement according to claim 10, wherein the workpiece is designed as a blade of a turbine or housing of a turbine.

18. (New) The method according to claim 13, wherein said each optical fiber is bonded directly on the surface of the workpiece.

19. (New) The method according to claim 15, wherein said different geometrical configuration is a curvature.

20. (New) Use of a measuring arrangement according to claim 11, wherein said dynamically loaded component is a blade of a turbine or a housing of a turbine.